(12) UK Patent Application (19) GB (11) 2 171 610 A

(43) Application published 3 Sep 1986

(21) Application No 8505338

(22) Date of filing 1 Mar 1985

(51) INT CL⁴
A63G 15/04 A47C 3/029

(52) Domestic classification (Edition H)
A6M 21B
A4L 113 AX
B7E 501 620 DX
U1S 1177 1208 1827 A4L A6M B7E

(56) Documents cited
GB A 2103496

(58) Field of search
A6M
A4L
Selected US specifications from IPC sub-classes A47C
A63G

(71) Applicant
David Charles Ridley Waymouth,
West Farm, West Quay, Appledore, N. Devon EX39 1RU

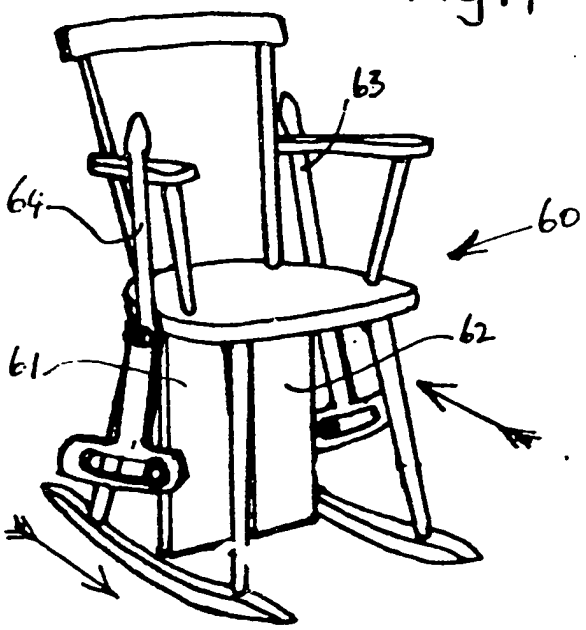
(72) Inventor
David Charles Ridley Waymouth

(74) Agent and/or address for service
David Charles Ridley Waymouth, West Farm, West Quay, Appledore, N. Devon EX39 1RU

(54) Rocking assembly

(57) A rocking chair, horse or similar is fitted with a hinged elongate member (or members 61, 62) free to swing beneath the seat but restrained from swinging beyond the midpoint or vertical at which point it projects a small distance below the rockers so that the assembly will, on rocking back, rise on the projection and be propelled forward until the member has swung within the arc of the rockers. The restraining mechanism is arranged to restrict movement in one direction or the other and, by using two or more elongate members fitted with means for withdrawal within the arc of the rockers, the assembly becomes both reversible and steerable. A number of mechanisms for reversing and steering are shown and a variety of applications described. In one embodiment, the arcuate rocker is a portion of a hemisphere and is provided with four slots through each of which an elongate member projects, a joystick connected to wires controlling the positions of these members. In a further embodiment, a "caterpillar" arrangement of several independently pivotable and controllable elongate members is employed.

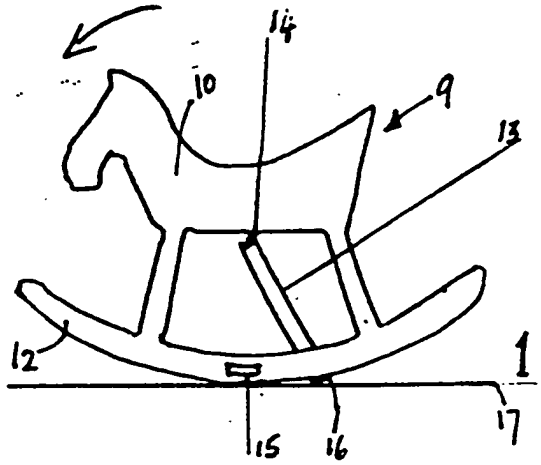
Fig 11

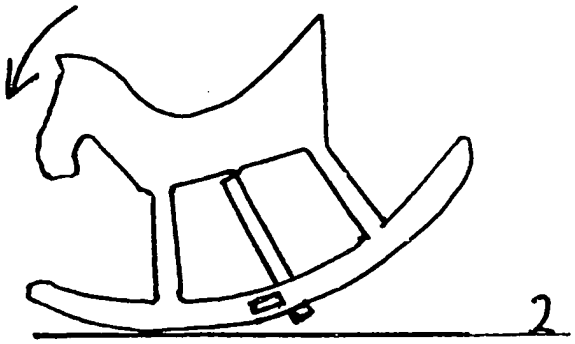


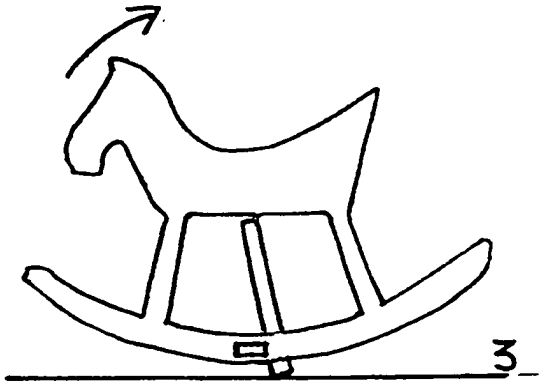
GB 2 171 610 A

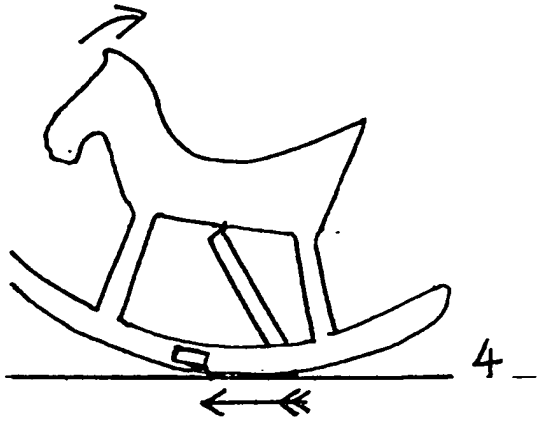
Fig 1

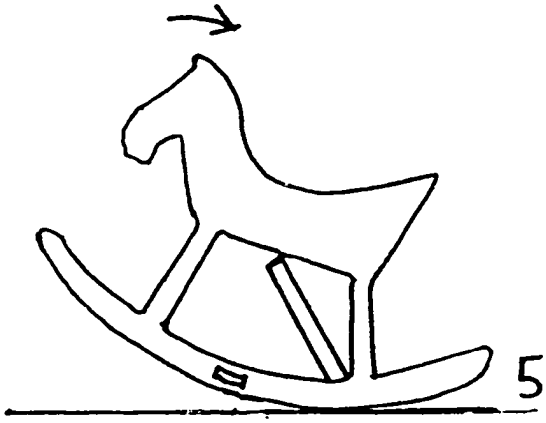
2171610

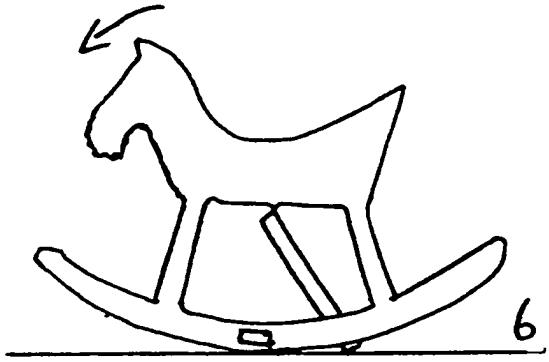


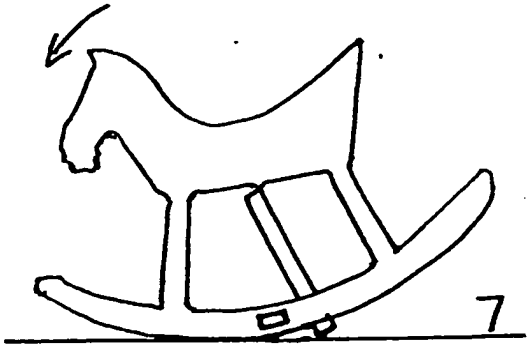


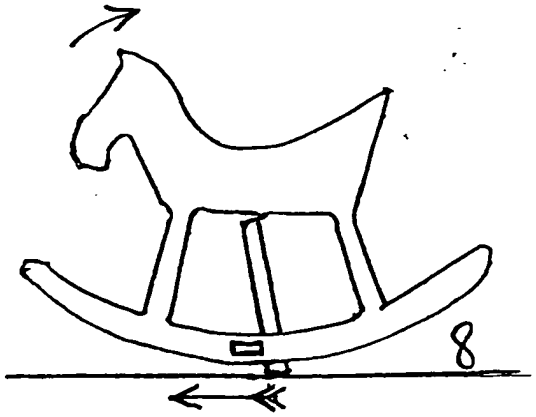












2171610

Fig 2

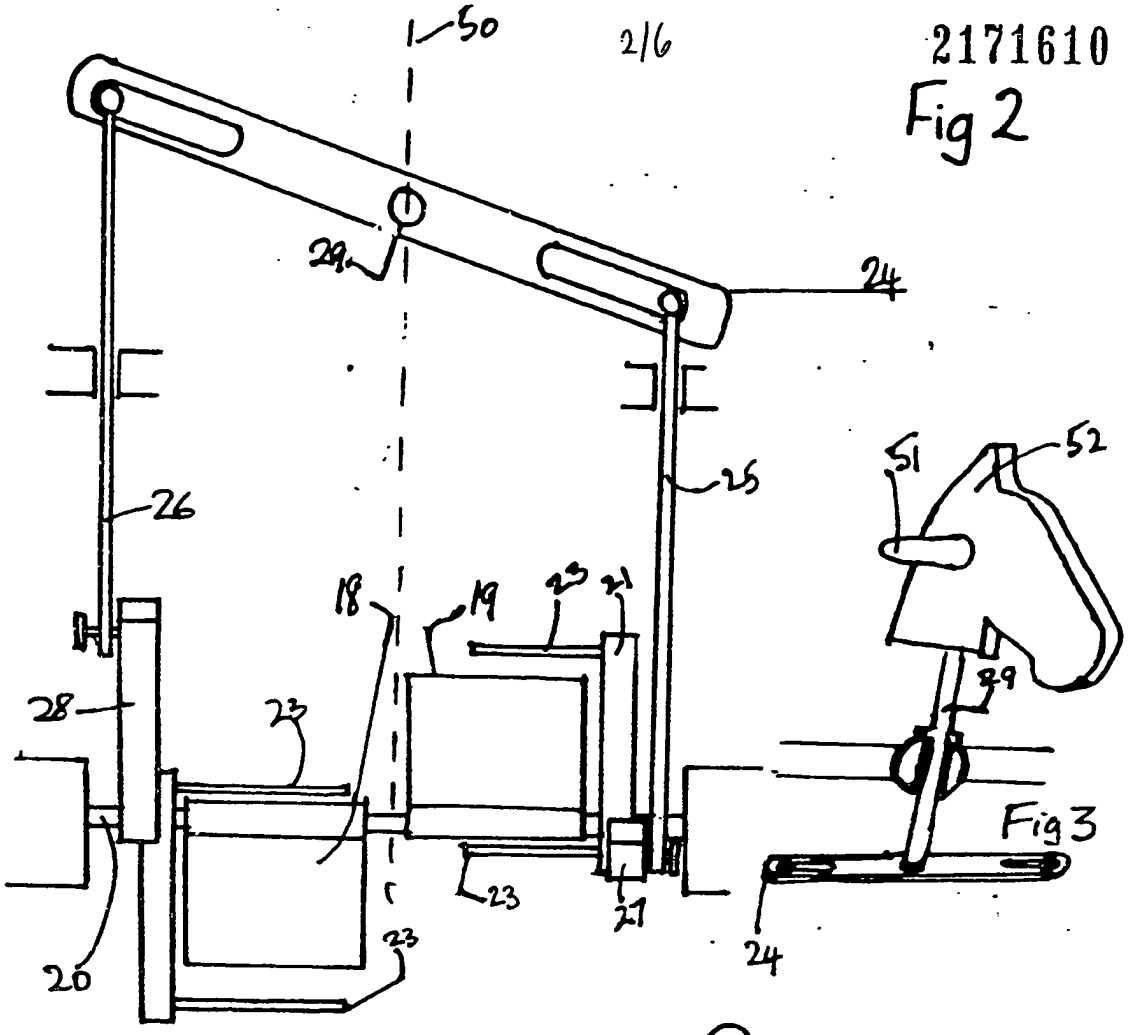


Fig 3

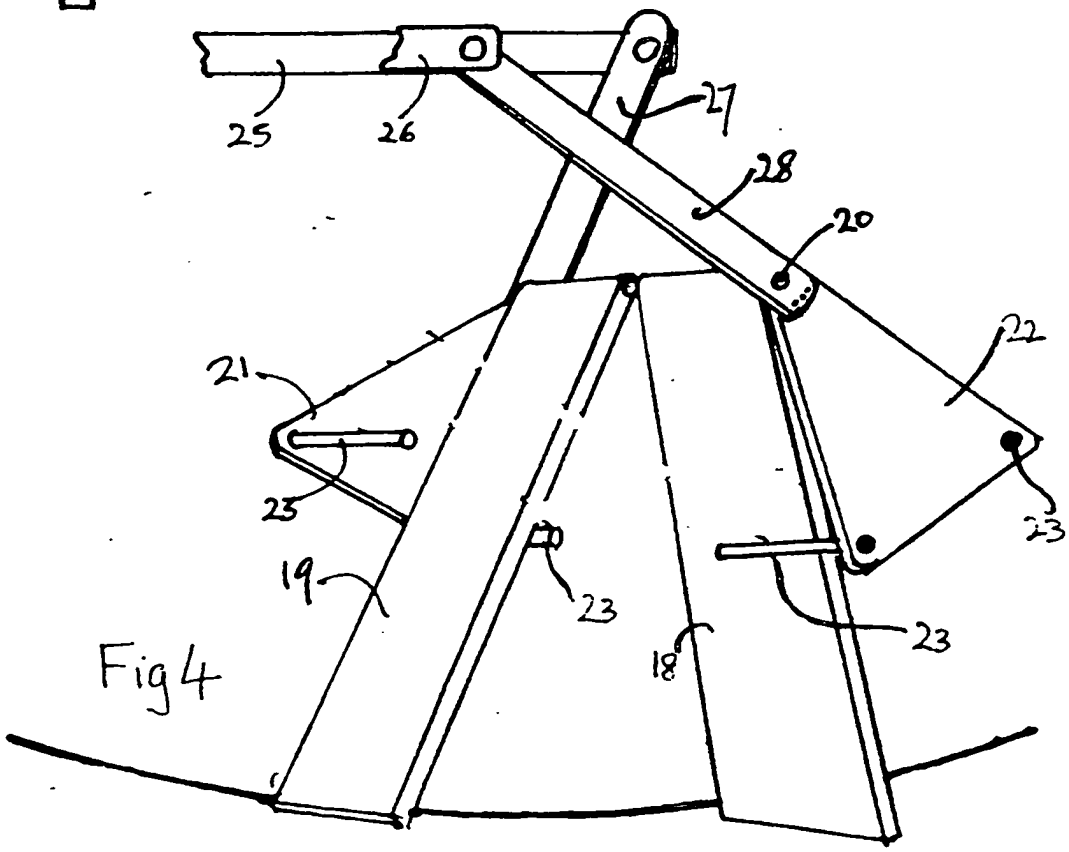


Fig 4

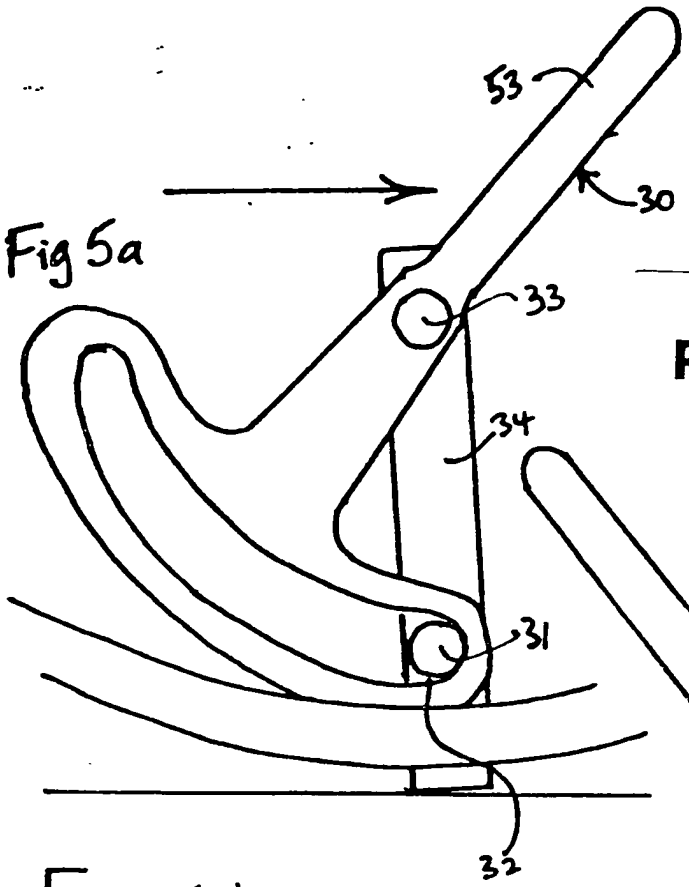


Fig 5a

Fig 5 b

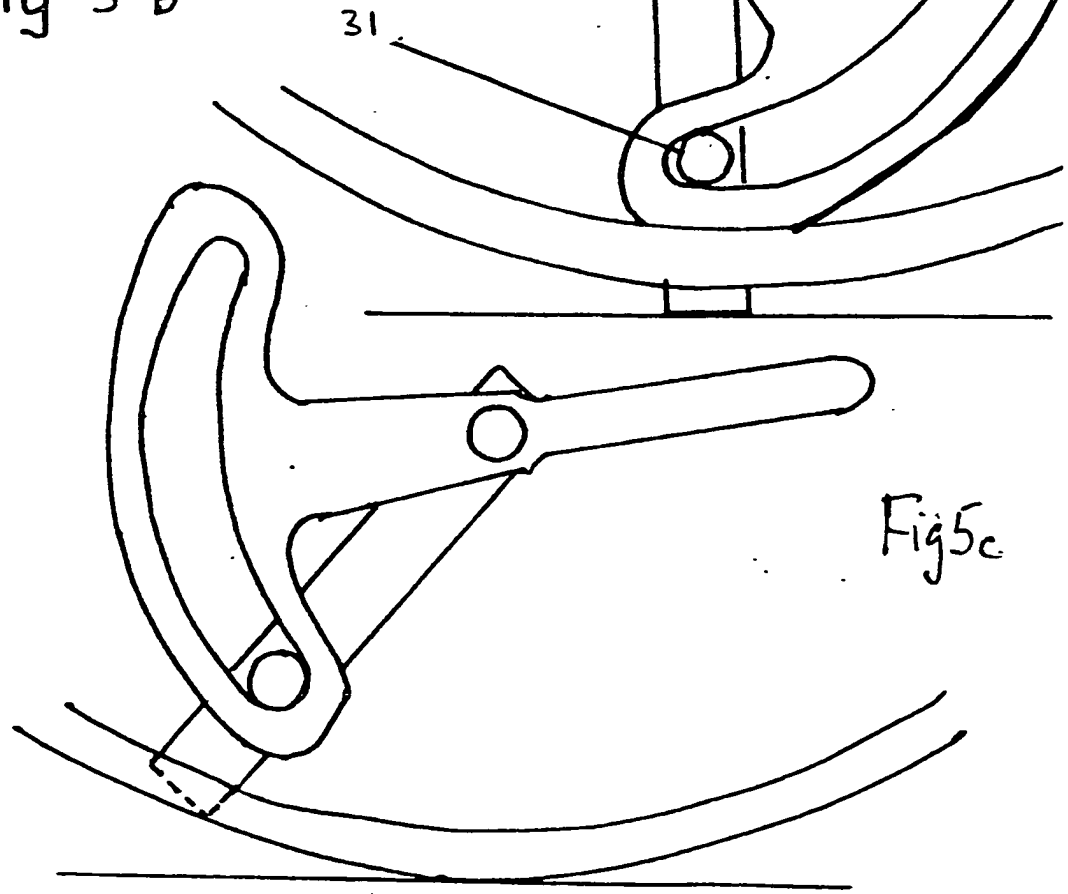


Fig5c

Fig 6

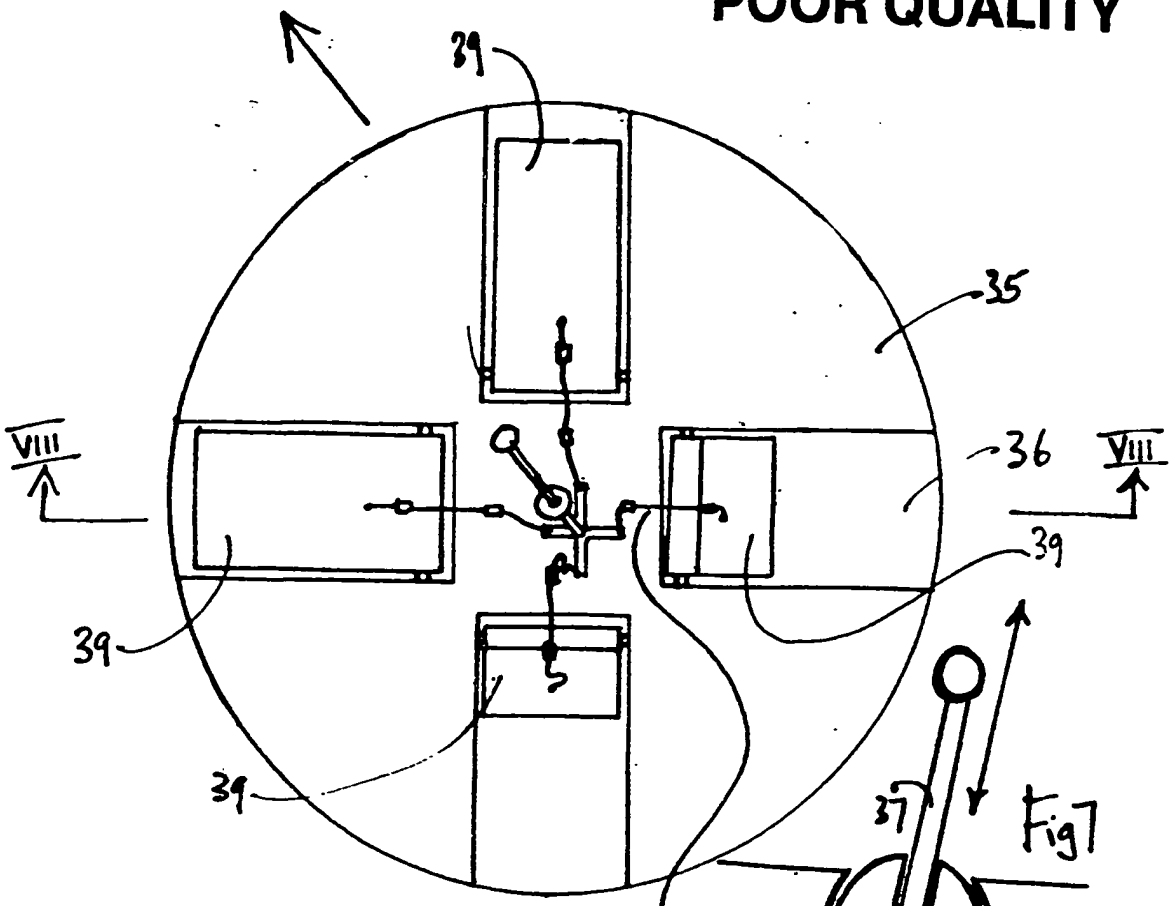


Fig 7

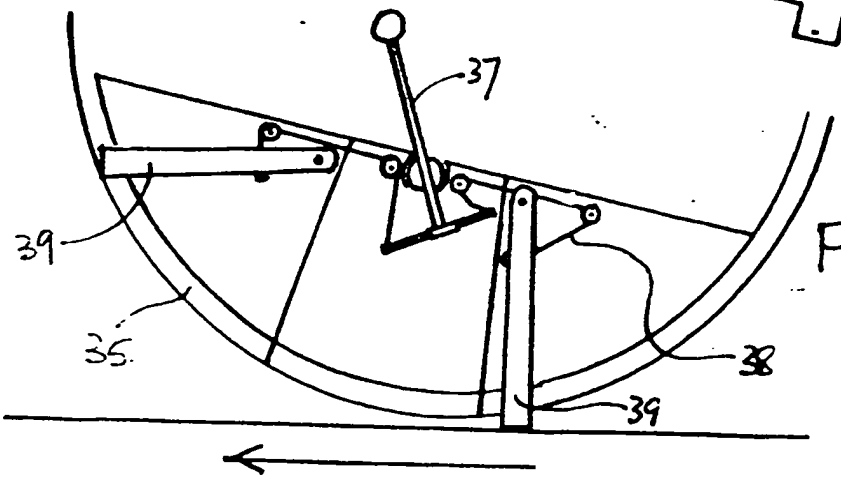


Fig 8

2171610

Fig 10

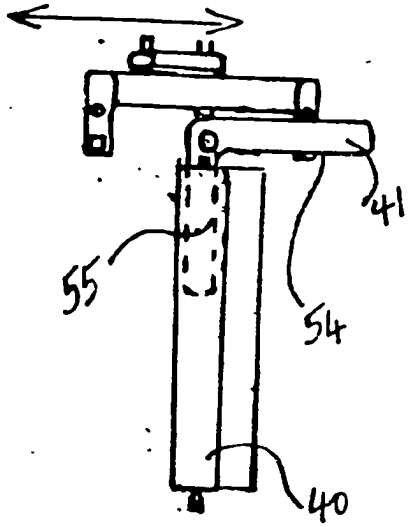


Fig 9

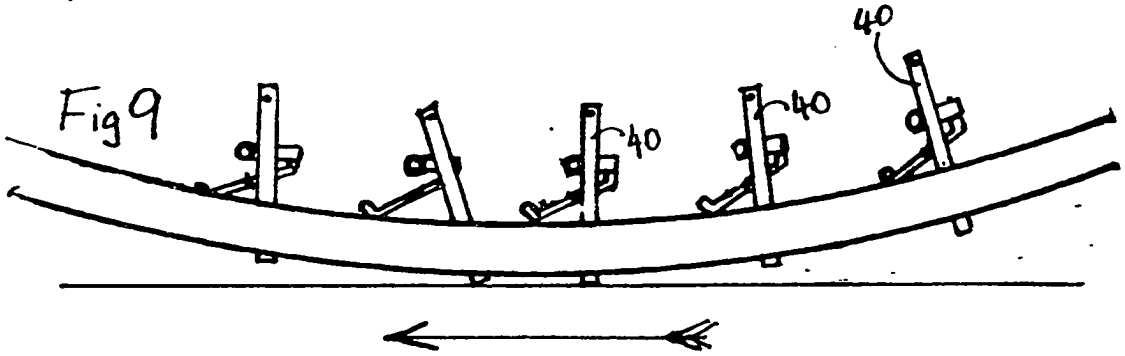
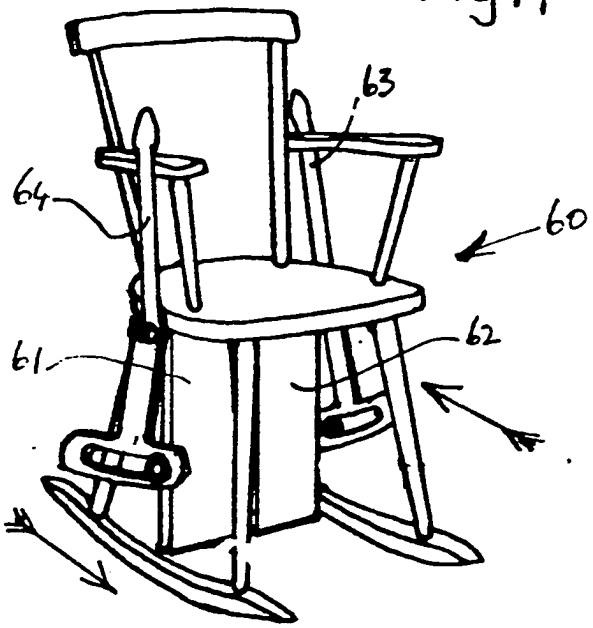


Fig 11



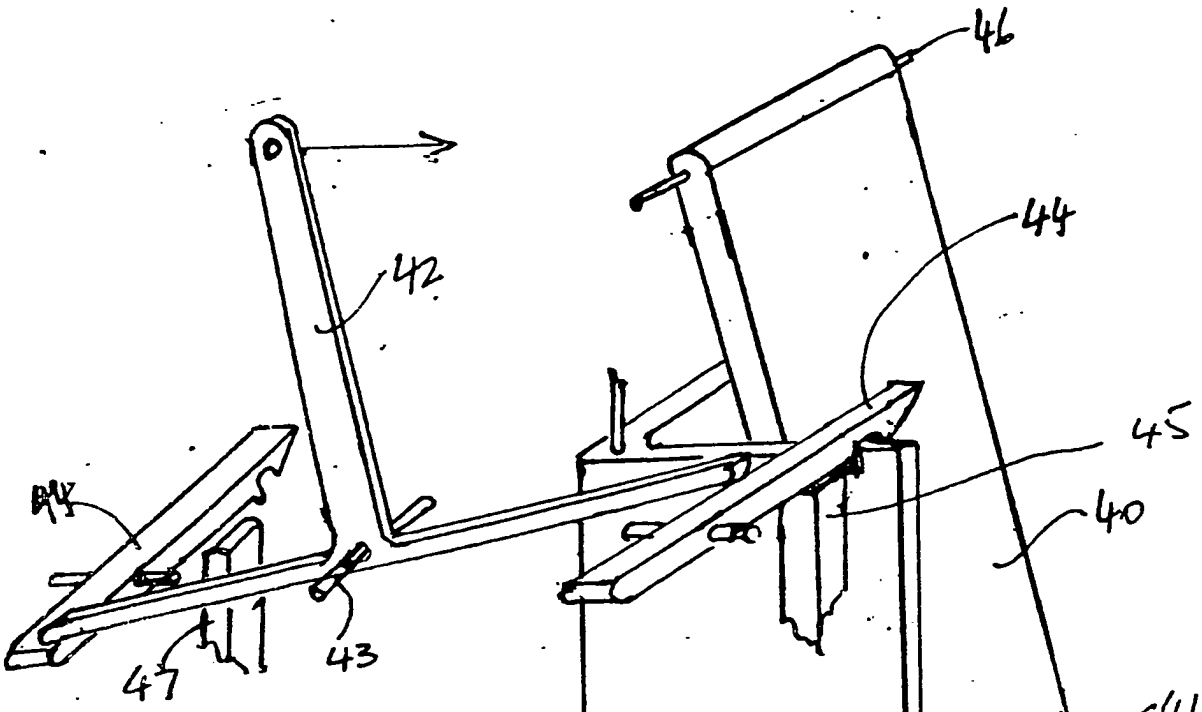


Fig 12

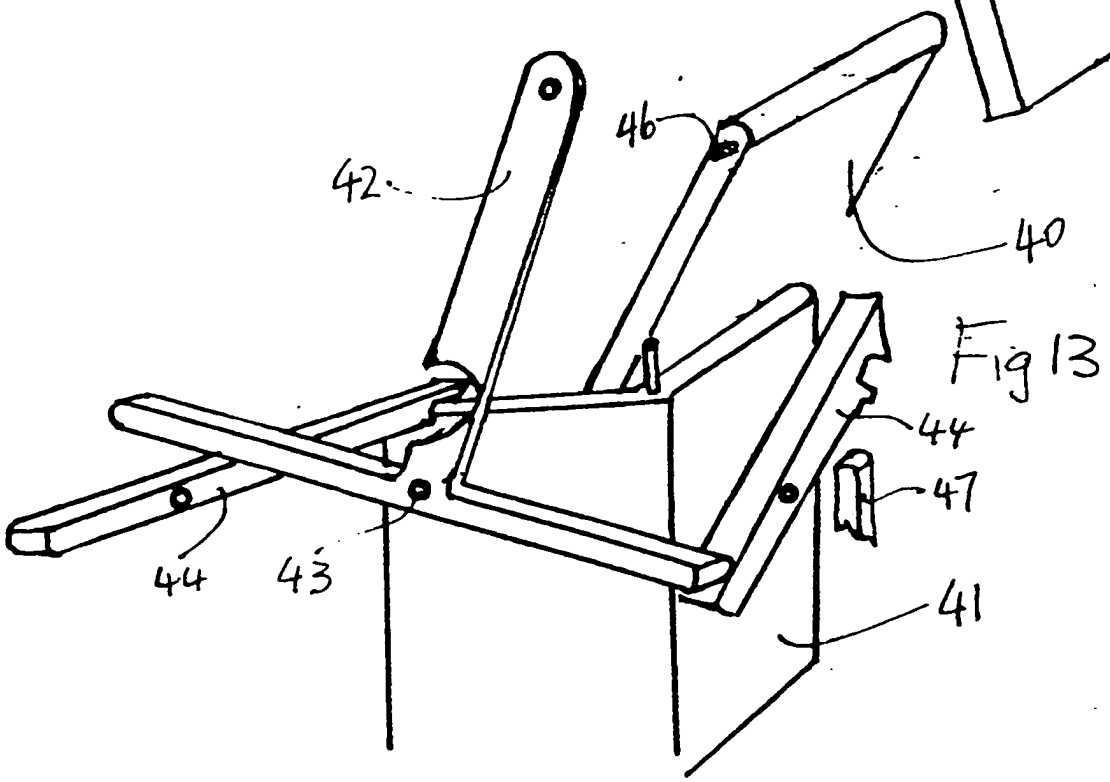


Fig 13

SPECIFICATION

A Rocking Assembly

This invention relates to a mobile rocking assembly and is more particularly, although not exclusively, concerned with a mobile rocking assembly which can be propelled selectively in one of two opposite directions, or which is steerable.

Rocking horses and rocking chairs are well known; such rocking assemblies normally oscillate on two arcuate rockers but usually remain in the same general location, the rockers contacting the same surface upon which the assembly is disposed during each rocking motion.

A rocking horse which is capable of being propelled in only one direction is known; it comprises a support (for example a seat portion for a rider), two arcuate rockers on which the support is carried, and a single elongate member or flap which is pivotally mounted by a hinge below the support and which is capable of swinging about that hinge. If the elongate member were free to hang vertically from the hinge with the rocking horse at its equilibrium position of rest, the elongate member would project a short length (approximately 1—1½ centimetres) below the rockers. However, the pivotal motion of the elongate member is restrained by a horizontal bar linking the two arcuate rockers of the rocking horse and preventing the elongate member from reaching or passing beyond the vertical line below the hinge. When the rocking horse tilts forward, the elongate member swings forward against the restraining bar and, as the rocking horse rocks back, the combination of support and rockers is lifted onto the projecting end of the elongate member the combination pivoting about the projecting end. The inertial forces are such that the combination is then moved forward until the hinged elongate member has swung relatively backwards and upwards and the combination of support and rockers has generally travelled across the ground some 8 or 9 cm. Such a rocking horse can function as a non-propellable rocking horse if the elongate member is lifted clear of the ground, towards the rear of the horse.

According to one aspect of the present invention, there is provided a rocking assembly comprising:

a support;

an arcuate rocker on which the support is carried; and

mounted about a pivot, for pivotal movement with respect to the support, and capable of extending in the general direction of the rocker, an elongate member which is capable of swinging about the pivot and which has a free end portion capable of being captured in a first region to one side of the zone of contact of the arcuate rocker and a surface upon which the assembly is disposed at equilibrium of the assembly, with the free end portion of the elongate member projecting beyond the arcuate rocker such that, in use, as the assembly is rocked onto the length of the arcuate rocker on the other side of the said zone of contact and then rocked back toward the one side of the said zone of contact, the combination of support and rocker is lifted onto the projecting end of the elongate member, the combination pivoting about the said end and being propelled in a direction from the one side to the other side;

wherein there is provision to permit the free end portion of the elongate member to be captured in a second region on the other side of the zone of contact or there is provided a further elongate member capable of being captured in that second region, such that the assembly may be propelled in a manner as aforesaid in a direction from the other side to the one side; and

wherein, such a further elongate member is present, there is further provision such that one, but not both, of the elongate members are operable at the same time.

In one embodiment of this aspect of the present invention, the free end portion of the elongate member is capable of being captured in the first region by an abutment member which is disposed on the swinging path of the elongate member. In another embodiment of this aspect of the present invention, the free end portion of the elongate member is capable of being captured in the first region by a flexible connector, dependent from the support, which retains the elongate member in the first region.

For the rocking assemblies according to this aspect of the present invention, there may be a single elongate member and means for selectively and releasably capturing the single elongate member in the first region or in the second region. Here, the releasable capturing means is conveniently a pivoting element comprising two abutment portions, the pivoting element being disposed such that, in use, on pivoting the element between a first position and a second position, the single elongate member is carried by one of the abutment portions from one of the said first and second regions into the other of the said regions. The releasable capturing means may be manually operable.

Instead of there being a single elongate member, the rocking assembly of this aspect of the present invention may be provided with at least two elongate members with two of the elongate members disposed in line, one on either side of the aforesaid zone of contact.

The rocking assembly of this aspect of the present invention is capable of being propelled in one of two opposite directions

The rocking assembly of this aspect of the present invention is capable of being propelled in one of two opposite directions. Thus, in the embodiment employing a single elongate member capable of being disposed in a region to one side or the other side of the said zone of contact, the means by which the elongate member can be switched from one region to the other region can be combined with the means which captures the elongate member in either of the regions. This combined means may be an element provided with a slot, which element is disposed to one side of the elongate member such that a projecting pin from the elongate member can engage the groove and slide in the slot. The

elongate member is then free to swing, with the pin moving within the slot; however, the pin is captured in one or other of the regions by abutting one or other of the ends of the slot. The said element is pivoted such that the slot may be moved with respect to the assembly so that one or other of the ends of the slot lies in a position generally below, and to one side of, the pivot of the elongate member. The end of the slot acts as an abutment member to the pin projecting from the elongate member. The slotted element can be used manually to alter the region in which the elongate member is captured, so functioning as a direction control lever.

In another embodiment of this aspect of the present invention, there are two elongate members disposed in line, one on either side of the said zone of contact. In this embodiment it is not necessary, in order to give reversibility, for there to be provision to transfer an elongate member from the region on one side of the zone of contact to the region on the other side; rather, one of the members is rendered inoperable by being lifted from contact with the surface upon which the assembly is disposed during rocking in order that the assembly may be propelled by the other elongate member which is still operable. In this embodiment, lifting elements are provided which the operator of the assembly may utilise to lift one of the elongate members from contact with the ground. The lifting elements may be, for instance, in the form of a flexible cord or wire. By lifting both elongate members from contact with the surface upon which the assembly is disposed, the assembly can be utilised as a simple, non-propellable, rocking assembly. With both elongate members in contact with the surface upon which the assembly is disposed, the rocking assembly can be locked such that it does not rock.

The lifting element which lifts one of the elongate members from contact with the surface may also function to capture the elongate member in a region to one side of the said zone of contact, by preventing the elongate member from swinging beyond a certain position with respect to its pivot point. Alternatively, each elongate member may be captured by an abutment member in the form of a horizontal bar disposed in the swinging path of the elongate member.

The rocking assembly of this aspect preferably comprises two spaced apart rockers having the same curvature and having the same orientation in space. It is nevertheless, to be appreciated that a rocking assembly utilising a single rocker could be employed or an assembly having more than two rockers could be used.

According to a second aspect of the present invention there is provided a rocking assembly comprising:

a support;

an arcuate rocker on which the support is carried; and

at least two elongate members, with at least one elongate member disposed on either side of a central line of rocking of the assembly, each elongate member being independently mounted about a pivot for pivotal movement with respect to the support, extending in the general direction of the rocker, and being capable of swinging about its pivot;

wherein each elongate member has a free end portion which is capable of being captured in a first region to one side of the zone of contact of the arcuate rocker and a surface upon which the assembly is disposed at equilibrium of the assembly, with the end portion of each of the elongate members being capable of projecting beyond the arcuate rocker such that, in use, as the assembly is rocked onto the length of the arcuate rocker on the other side of the said zone of contact of the assembly and then rocked back toward the one side of the said zone of contact, the combination of support and rocker is lifted onto the projecting ends of the elongate members, the combination pivoting about the said ends and being propelled in a direction from the one side to the other side;

wherein there is provision to render one of the members inoperable or to capture the free end region of one of the members in a second region on the other side of the said zone of contact such that, on rocking as aforesaid, the combination pivots assymetrically and is thus propelled in a curved path.

The rocking assembly of this aspect of the present invention is steerable by the provision of independently pivoted elongate members which may be independently released from contact with the surface on which the rocking assembly is disposed. By lifting one of the elongate members from contact with the surface, the rocking assembly is propelled on one side of the central line of rocking of the assembly such that the rocking assembly moves in a curved path.

In preferred embodiments of the rocking assembly of this aspect of the present invention, the free end portions of each elongate member are capable of being independently captured in the first region by one or more abutment member disposed in the swinging path of each elongate member. Alternatively in another embodiment, the free end portions of the elongate members are capable of being captured in the first region by one or more flexible connectors, dependent from the support, which retain the elongate members in the first region.

In preferred embodiments of this aspect of the present invention, the provision to render one of the members inoperable is a means for removing the elongate member from projection beyond the arcuate rocker. This means may, for example, be a connecting wire or there may be a series of rods connected to a steering column, the rods being capable of lifting an elongate member from contact with the surface upon which the assembly is disposed.

As well as being capable of being captured in a first region to one side of the said zone of contact, there may be provision such that the elongate members can be captured in the second region on the other side of the said zone of contact. Thus, in a similar arrangement to that described above for the first aspect of the present invention, each of the

elongate members may be capable of being independently moved to the other side of the said zone of contact. Provision to facilitate this moving may be in the form of a slotted element (see above for the first aspect of the invention) or, alternatively, a pivoted element may be provided, the pivoting element corresponding to the slotted element except that the abutment for the elongate members, instead of being the two ends of the slot is two pins which project into the swinging path of the elongate member trapping the elongate member therebetween.

The rocking assembly of both aspects of the present invention may have a rocker which is in the form of a convex curved surface provided with one or more slots through which the elongate members are capable of projecting. Such an assembly would be steerable in any direction.

A control for steering the assembly of the present invention is preferably located at a position where the operator of the assembly may easily grip the control although the control, once in place, may be positively restrained in place by a gate, spring, catch or similar displaceable retaining means. The control is arranged such that movement of the control in a particular direction causes one or more of the elongate members to be lifted from contact with the ground so providing an assymmetry in the arrangement of the elongate member(s) which are operable, and thus causing the assembly, when rocked, to be propelled in a curved path, as desired. The control may be a tiller, a wheel, reins, one or more pedal, joystick or one of more lever (which would be particularly applicable for applications of this invention to a rocking chair for the disabled or elderly).

The steerable assembly of this aspect of the present invention may be provided with four elongate members, two either side of the said zone of contact. In this embodiment, when all of the elongate members are operable, i.e. when they are all in contact with the surface upon which the assembly is disposed, the assembly may be locked and does not rock.

The rocking assembly of the present invention may be designed such that it is collapsible, for example in a manner similar to the manner in which deck chairs are collapsible. This would, in one embodiment, provide a convenient propellable alternative to a wheel chair, which could be folded and stored simply.

The rocking asssembly may be in a form which can be removably attached to, for example, a chair, or pallet or other load-carrying surface. Thus, the assembly may comprise mirror-image sections which fix to respective sides of, for example, a chair. The two sections can then be secured underneath the chair to provide rigidity. In this embodiment, the elongate members may be generally "L" shaped such that the main part of the elongate member will extend from a relatively narrow limb underneath, for example, a chair.

For a better understanding of the present invention and to show how the same may be put into effect, reference will now be made, by way of example only, to the accompanying drawings in which:

Figure 1 shows an action sequence of one embodiment of a steerable rocking horse in accordance with the present invention;

Figure 2 shows a plan view of one embodiment of a steering assembly suitable for use with a rocking assembly of the present invention;

Figure 3 shows a partial, perspective view of one part of the assembly shown in Figure 2;

Figure 4 shows a side perspective view of the steering arrangement shown in Figure 2;

Figures 5a, 5b and 5c show a direction control lever, for use with a rocking assembly of the present invention, in three positions;

Figure 6 shows another embodiment of the rocking assembly of the present invention, wherein the arcuate rocker is a convex, curved surface (like a portion of a surface of a sphere);

Figure 7 shows a joystick control for the embodiment of the rocking assembly shown in Figure 6;

Figure 8 shows a vertical sectional view of the same rocking assembly taken along the line VIII—VIII in Figure 6;

Figure 9 shows a caterpillar arrangement for use in a further embodiment of a rocking assembly of the present invention;

Figure 10 shows a plan view of one of the controls for an elongate member of the arrangement shown in Figure 9;

Figure 11 shows a steerable rocking chair according to the present invention;

Figure 12 shows a control system for use in the caterpillar arrangement of Figures 9 and 10; and

Figure 13 shows another position of the control system shown in Figure 12.

With reference to Figure 1, the locomotive principle behind the present invention is shown in an action sequence of eight steps. With regard to step 1 of the sequence, a rocking horse assembly 9 comprises a support 10 carried on an arcuate rocker 12. A second arcuate rocker (not shown) is parallel to and spaced from the arcuate rocker 12, and is thus obscured by the latter. An elongate member 13 is pivoted below, and with respect to, the support at a hinge 14. For simplicity, only one of the elongate members 13 of this assembly 9 is shown. The other elongate member 13 is disposed laterally beside the elongate member 13 which is shown in Figure 1. The elongate members 13 swing about the hinge 14 to describe an arc having a smaller radius of curvature than that of the arcuate rockers 12. An abutment member 15 is disposed between the two arcuate rockers 12 in the swinging path of the elongate member 13. The abutment member 15 lies in a position generally vertically below the hinge 14 when the rocking assembly is not rocking. However, it is to be appreciated that the abutment member 15 could be disposed at other positions between the arcuate rockers 12 in the swinging path of the elongate members 13. A free end portion 16 of each elongate member 13 projects beyond the arcuate rocker 12 and is shown in contact with the surface 17 upon which the rocking assembly 9 is disposed. As

shown in step 1 of the action sequence, the free end 16 is captured by the abutment member 15 to one side of the zone of contact of the rocking assembly 9 with the surface 17.

The free end portion 16 may, in one embodiment of the invention, be flared, when compared with the thickness of the elongate member. Alternatively, the free end portion 16 may be in the shape of an inverted "T". This arrangement may improve the grip of the elongate member 13 on the surface 17.

The action sequence of Figure 1 is represented in numerical order, and the rocking motion of the rocking horse is shown by the curved arrows adjacent the horse's head. The forward movement of the combination of rockers 12 and support 10, which occurs as the horse is pitched forward after it has been lifted onto the free end region 16 of the elongate member, is shown by the horizontal arrows below steps 4 and 8 of Figure 1.

Thus, in step 2 of the action sequence, the rocking assembly 9 has been pitched forward onto the front portion of the arcuate rocker 12. The elongate member 13 abuts the element 15 such that the free end 16 of the abutment member 13 projects beyond the arcuate rocker 12. In step 3, the assembly rocks back onto the arcuate rocker 12 until the free end 16 of the elongate member 13 makes contact with the surface 17. At this point, the combination of rockers 12 and support 10 is lifted onto the free end 16 and, as shown in step 4, the combination of the support and arcuate rockers is propelled in a direction shown by the arrow beneath the arcuate rocker. After such propulsion, the free end 16 of the elongate element 13 is flush with the portion of the arcuate rocker 12 which contacts the ground and the assembly is no longer being propelled forward. In step 5 the assembly continues to rock backwards but, in step 6, the assembly is again rocking forwards in a similar manner to that shown in step 2. The whole sequence of steps 1 to 5 is then repeated as the assembly is propelled further forward.

In the sequence shown in Figure 1, both elongate members 13 have kept level with each other, so that the forward propulsion effect is uniform on both sides of the assembly. However, by rendering one of the elongate members inoperative, the forward propulsion effect would be uneven and would cause the assembly to advance along a curved path.

This action sequence is also capable of illustrating the first aspect of the present invention in which there is a single elongate member 13 which may be captured on either side of the zone of contact of the assembly 9 with the surface 17 when the assembly is stationary. The abutment member 15 should then be movable so that the elongate member can swing to the other side of the said zone of contact and be captured by the abutment member on that side. The whole assembly may be propelled in a manner as aforesaid but in the opposite direction. Such an embodiment is not steerable. The same end may be achieved by having two elongate members 13, one captured on one side of the said zone of contact, and the other captured on the other side of the said zone of contact, along the line of action of the assembly. Levers or wires are then provided to lift the free end region 16 of the relevant elongate member 13 from contact with the surface 17 such that the rocking assembly is propelled, on rocking, in the direction desired. Both elongate members 13 could be lifted from contact with the ground 17 if the rocking assembly is desired to be used as a non-propellable, rocking assembly.

In Figure 2, a plan view of a steering assembly suitable for use with a rocking assembly of the second aspect of the present invention is shown. The rocking assembly has two elongate members 18, 19 disposed either side of the central line 50 of rocking of the assembly.

A partial perspective view of a portion of the steering assembly is shown in Figure 3 and a perspective side view of the steering arrangement is shown in Figure 4. Reference will now be made, to all three of Figures 2, 3 and 4. The two elongate members 18, 19 are pivoted about an axis 20 and may independently swing about that axis 20. Two triangular elements 21, 22 are also pivoted about the axis 20, each triangular element 21, 22 being positioned to one side of the swinging path of an adjacent and respective elongate member 18, 19. The two triangular elements 21, 22 are each provided, at each of the two non-pivoted corners of the element, with an abutment member 23 which extends into the swinging path of the adjacent elongate member 18 or 19. The abutment members 23 function to control the swinging of the elongate members 18, 19.

The triangular elements 21 and 22 are linked to a steering yoke 24 by pivoted linkages 25, 27 and 26, 28. The linkage members 27, 28 are fixed with respect to the respective triangular elements 21, 22 in the region of the axis 20. The steering yoke 24 is connected, via a vertical shaft 29, to a pair of manually grippable handles 51 on the sides of a horse head shape 52. The handles 51 provide a means for turning the steering yoke 24. The head 52 handles 51 can turn the shaft 29, connected to the yoke 24, and are free to move forwards or backwards causing the yoke 24 to move in the opposite sense through the ball joint shown. By this arrangement, the triangular elements 20, 21 can pivot forwards or backwards about the axis 20 to capture the elongate members 18, 19 at a desired position to either side of the zone of contact of the assembly, when stationary, with the surface upon which it is disposed.

As the head 52 and handles 51 are turned, so the steering yoke 24 is turned and the triangular elements 21, 22 adopt an assymmetric disposition as shown in Figures 2 and 4, one elongate member being captured to one side of the said zone of contact, and the other being captured to the other side of the said zone of contact. In this disposition, when the rocking assembly is rocked, the assembly will be propelled in a circular path.

It is to be appreciated that with the arrangement of the steering yoke 24, vertical shaft 29 and handles 51 as shown in Figures 2, 3 and 4, when the head 52 is moved forward, the assembly will be propelled backward when rocked, since the triangular elements 22, 21 will have been moved to capture the

elongate members 18, 19 in the region to the front of the assembly which necessarily results in backwards propulsion (as explained with regard to Figure 1). The reverse result may be achieved by pulling the handles 51 backwards.

Turning to Figure 5, a direction control lever 30 is shown in three separate positions. The direction control lever 30 performs a similar operation to the steering assembly shown in Figures 2 to 4; however, there are no levers connected to a steering yoke for this arrangement as the lever itself has a handle 53. When there are two elongate members disposed either side of a central line of rocking of the assembly there will be two such direction control levers 30, one on each side of the rocking assembly. The direction control lever 30 defines, at the end remote from the handle 53, an arcuate slot 32 in which a pin 31 projecting from an elongate member 34 moves as the rocking assembly is propelled. The ends of the slot 32 serve to abut the pin 31 to capture the elongate member 34 in one of the regions to either side of the said zone of contact. The direction control lever is pivoted about an axis 33 about which the elongate member 34 is also, independently pivoted. In Figure 5a, the handle portion 53 of the direction control lever 30 has been moved to the right and towards the front of the rocking assembly. Thus, the elongate member 34 is captured in the region to the rear of the said zone of contact. The rocking assembly will, in use, be propelled in a forward direction. In Figure 5b, the direction control lever 30 is pushed towards the rear of the assembly and, in use, the rocking assembly will be propelled backwards. In Figure 5c the direction control lever 30 has been pushed beyond the position shown in Figure 5a such that the elongate member 34 is removed from contact with the surface upon which the assembly is disposed and the rocking assembly is, therefore, in "neutral". An arrangement of gates may be provided to retain the handle (53) in one of the positions corresponding to the "forward" "reverse" or "neutral" states of the rocking assembly.

Figures 6 to 8 illustrate an embodiment of the invention wherein the arcuate rocker is a generally convex surface 35 (rather like a portion of a hemisphere) provided with four slots 36 through each of which an elongate member 34 projects. A joystick 37 connected to wires 38 controls the position of the elongate members 39. The wires 38 act both to lift the elongate members 39 from contact with the surface on which the arcuate rocker 35 is disposed and also to capture the elongate members 39 in a desired position. By appropriate manipulation of the joystick 37, the rocking assembly may be propelled and steered by rocking the assembly in the desired direction and ensuring that the appropriate elongate members 39 are either operable or inoperable to give propulsion in the desired direction. The joystick may also be used to lift all four elongate members from contact with the ground by pushing the joystick 37 downardly towards the arcuate rocker thereby lifting all four elongate members 39 by the same degree.

A caterpillar embodiment of the present invention is shown in Figures 9 and 10. In Figures 9 and 10, several elongate members 40 are independently pivoted and independently controllable. Each elongate member 40 has a respective pivoting abutment 41 which can be swung around to present one of two faces 54, 55 to the elongate member 40, and thus to capture the elongate member 40 in one of two positions and provide a mechanism by which the assembly can be reversed. Control of the pivoting of the pivoting abutment 41 is shown in Figures 12 and 13 where a lever 42 pivots about an axis 43 to engage or disengage a pivoting element 44 which has a slot 45 capable of locking the pivoting abutment 41. If the direction control lever 42 is moved to the right, as shown by the arrow in Figure 12, the element 44 is pushed down at the one end and the slot 45 at the other end of the element 44 is disengaged from the pivoting abutment 41. The elongate member 40 is capable of pivoting about an axis 46 to swing through a vertical position to be captured in another region. The pivoting abutment will be deflected by the pivoting elongate member and then be locked in position as shown in Figure 13. Element 44 is so pivoted that, when not disengaged by the control lever 42, it will rest on the fixed stop 47 until lifted by the pivoting abutment 41 engaging the chamfered end of element 44. As an alternative to the system of levers which control the position of the pivoting abutment 41, an arrangement of springs may be provided linking the control lever to the elements 44. This arrangement might function in a manner rather like the conventional light switch.

In this embodiment, a number of elongate members 40 linked to levers 42 may be connected to a single master control lever. It is then possible to change the master control lever such that all of the linked elongate members 40 will change sides at the first opportunity after the change; as each elongate member 40 changes sides, it will cause its respective pivoting abutment to swing through approximately 90° where it will be captured in the other region.

With regard to Figure 11, the direction control lever shown in Figure 5 is employed in a rocking chair 60. The position of two independently swingable elongate members 61, 62 is controlled by the direction control levers 63, 64 as described above in relation to Figure 5.

CLAIMS

1. A rocking assembly comprising:

a support,

an arcuate rocker on which the support is carried; and

mounted about a pivot, for pivotal movement with respect to the support, and capable of extending in the general direction of the rocker, an elongate member which is capable of swinging about the pivot and which has a free end portion capable of being captured in a first region to one side of the zone of contact of the arcuate rocker and a surface upon which the assembly is disposed at equilibrium of the assembly, with the free end portion of the elongate member projecting beyond

the arcuate rocker such that, in use, as the assembly is rocked onto the length of the arcuate rocker on the other side of the said zone of contact and then rocked back toward the one side of the said zone of contact, the combination of support and rocker is lifted onto the projecting end of the elongate member, the combination pivoting about the said end and being propelled in a direction from the one side to the other side;

wherein there is provision to permit the free end portion of the elongate member to be captured in a second region on the other side of the zone of contact or there is provided a further elongate member capable of being captured in that second region, such that the assembly may be propelled in a manner as aforesaid in a direction from the other side to the one side; and

wherein, when such a further elongate member is present, there is further provision such that one, but not both, of the elongate members are operable at the same time.

2. A rocking assembly according to claim 1, wherein the free end portion of the elongate member is capable of being captured in the first region by an abutment member which is disposed in the swinging path of the elongate member.

3. A rocking assembly according to Claim 1, wherein the free end portion of the elongate member is capable of being captured in the first region by a flexible connector, dependent from the support, which retains the elongate member in the first region.

4. A rocking assembly according to any one of Claims 1 to 3, wherein there is a single elongate member and there is also means for selectively and releasably capturing the single elongate member in the first region or in the second region.

5. A rocking assembly according to Claim 4, wherein the releasable capturing means is a pivoting element comprising two abutment portions, the pivoting element being disposed such that, in use, on pivoting the element between a first position and a second position, the single elongate member is carried by one of the abutment portions from one of the said first and second regions into the other of the said regions.

6. A rocking assembly according to Claim 5, wherein the releasable capturing member is manually operable.

7. A rocking assembly according to Claim 1, 2 or 3, which includes at least two elongate members with two of the elongate members disposed in line, one on either side of the said zone of contact.

8. A rocking assembly comprises:

a support;

an arcuate rocker on which the support is carried; and

at least two elongate members, with at least one elongate member disposed on either side of a central line of rocking of the assembly, each elongate member being independently mounted about a pivot for pivotal movement with respect to the support, extending in the general direction of the rocker, and being capable of swinging about its pivot;

wherein each elongate member has a free end portion which is capable of being captured in a first region to one side of the zone of contact of the arcuate rocker and a surface upon which the assembly is disposed at equilibrium of the assembly, with the end portion of each of the elongate members being capable of projecting beyond the arcuate rocker such that, in use, as the assembly is rocked onto the length of the arcuate rocker on the other side of the said zone of contact of the assembly and then rocked back toward the one side of the said zone of contact, the combination of support and rocker is lifted onto the projecting ends of the elongate members, the combination pivoting about the said ends and being propelled in a direction from the one side to the other side;

wherein there is provision to render one of the members inoperable or to capture the free end region of one of the members in a second region on the other side of the said zone contact such that, on rocking as aforesaid, the combination pivots assymetrically and is thus propelled in a curved path.

9. A rocking assembly according to Claim 8, wherein the free end portions of each elongate member are capable of being independently captured in the first region by one or more abutment member disposed in the swinging path of the or each elongate member.

10. A rocking assembly according to Claim 8, wherein the free end portions of the elongate members are capable of being captured in the first region by one or more flexible connector, dependent from the support, which retain the elongate members in the first region.

11. A rocking assembly according to one of Claims 8 to 10, wherein there is provided, for each elongate member, a means for removing the elongate member from projection beyond the arcuate rocker to render that member inoperable.

12. A rocking assembly according to any one of Claims 8 to 11, wherein each of the members may be captured in the second region on the other side of the zone of contact.

13. A rocking assembly according to any one of Claims 1 to 12, wherein the rocker is a convex curved surface provided with one or more slot through which the elongate members are capable of projecting.

14. A rocking assembly according to any preceding claim, wherein, when there are at least two elongate members, there is provision to lock at least one elongate member in an operable position in each of the first region and the second region, substantially to prevent the assembly from rocking.

15. A rocking assembly according to any one of Claims 8 to 13 or to Claim 14 when appendant to any one of Claims 8 to 13, wherein the provision to render one of the members inoperable or to capture the free end region of one of the members in a second region on the other side of the said zone of contact includes a manual control in the form of a tiller.

16. A rocking assembly according to any one of Claims 8 to 13 or to Claim 14 when appendant to any

one of Claims 8 to 13, wherein the provision to render one of the members inoperable or to capture the free end region of one of the members in a second region on the other side of the said zone of contact includes a manual control in the form of a wheel.

17. A rocking assembly according to any one of Claims 8 to 13 or to Claim 14 when appendant to any one of Claims 8 to 13, wherein the provision to render one of the members inoperable or to capture the free end region of one of the members in a second region on the other side of the said zone of contact includes a manual control in the form of reins.

18. A rocking assembly according to any one of Claims 8 to 13 or to Claim 14 when appendant to any one of Claims 8 to 13, wherein the provision to render one of the members inoperable or to capture the free end region of one of the members in a second region on the other side of the said zone of contact includes a control in the form of one or more pedal.

19. A rocking assembly according to any one of Claims 8 to 13 or to Claim 14 when appendant to any one of Claims 8 to 13, wherein the provision to render one of the members inoperable or to capture the free end region of one of the members in a second region on the other side of the said zone of contact includes a manual control in the form of one or more levers suitable for use by a disabled person.

20. A rocking assembly according to any preceding claim, which is in the shape of a horse or other animal, a fire engine, a racing car, a speedboat, a pirate ship, a space rocket or capsule, a motor cycle or a Red Indian canoe.

21. A rocking assembly according to any one of Claims 1 to 20, for use as a mobile disabled person's chair.

22. A rocking assembly according to any preceding claim, which is collapsible.

23. A rocking assembly substantially as hereinbefore described, with reference to, and as illustrated in, Figure 1; Figures 1, 2, 3 and 4; Figures 6, 7 and 8; Figures 9, 10, 12 and 13; and Figure 11 of the accompanying drawings.

Printed for Her Majesty's Stationery Office by Courier Press, Leamington Spa. 9/1986. Demand No. 8817356.
Published by the Patent Office, 25 Southampton Buildings, London, WC2A 1AY, from which copies may be obtained.